



# Environmental Report

Environmental Report  
2009–2010

**DAISHINKU CORP.**

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## Company Profile

Corporate Name	: DAISHINKU CORP.
Logo	: 
Head Office	: 1389 Shinzaike, Hiraokacho, Kakogawa, Hyogo, 675-0194 Japan
Types of Business	: Manufacture and sales of electronic components and electronic equipment
Date of Foundation	: November 3, 1959
Representative	: President Sohei Hasegawa
Capital	: 19,344 million yen
Number of Employees	: 787 (as of end-July 2010)

## Scope of this report

DAISHINKU CORP.(Japan)  
    Head office Tottori Production Division  
    Tokushima Production Division Kanzaki Plant  
    Nishiwaki Plant Central Laboratory Distribution Center  
KYUSHU DAISHINKU CORP.(Japan)  
TIANJIN KDS CORP.(China)  
PT. KDS INDONESIA (Indonesia)

## Period

This Environmental Report mainly covers environmental activities and achievements during the period from April 2008 to March 2010

## Operational change during the period

Not Applicable

## Referenced guidelines

Environmental Report Guidelines 2007, published by the Ministry of the Environment, Japan

# Message from the President

## Environmental conservation for the future

We at Daishinku are committed to contributing to the development of electronics as well as to conservation of the global environment through our design, production and sales of crystal devices.

Electronics is changing daily life, making it increasingly convenient. Various new technologies and systems are being developed to support the sustainable growth of present-day society. Hybrid automobiles have realized improved fuel efficiency while electric vehicles requiring no gasoline are already in practical use. We can see initiatives being taken all over the world to establish environment-friendly smart cities focusing on smart grids (next generation power grids), which efficiently control the flows of energy. These new efforts, inevitably involving IT and electronics technologies, are expected to have great impact on the new markets we are targeting.

As a global enterprise aiming to play an active role in the establishment of the new society, we will work hard to contribute to the creation of a future where both electronics and nature thrive in harmony, through engagement in our specialized fields.

We hope this Environmental Report will deepen understanding of our environmental conservation activities.



President Sohei Hasegawa

## DAISHINKU GROUP ENVIRONMENTAL POLICY

### — Environment Philosophy —

Daishinku Group recognizes the environmental conservation activities as an important business challenge, and contributes to creating the society that is possible to develop continually, through activities which are harmonious with the environment.

### — Policy —

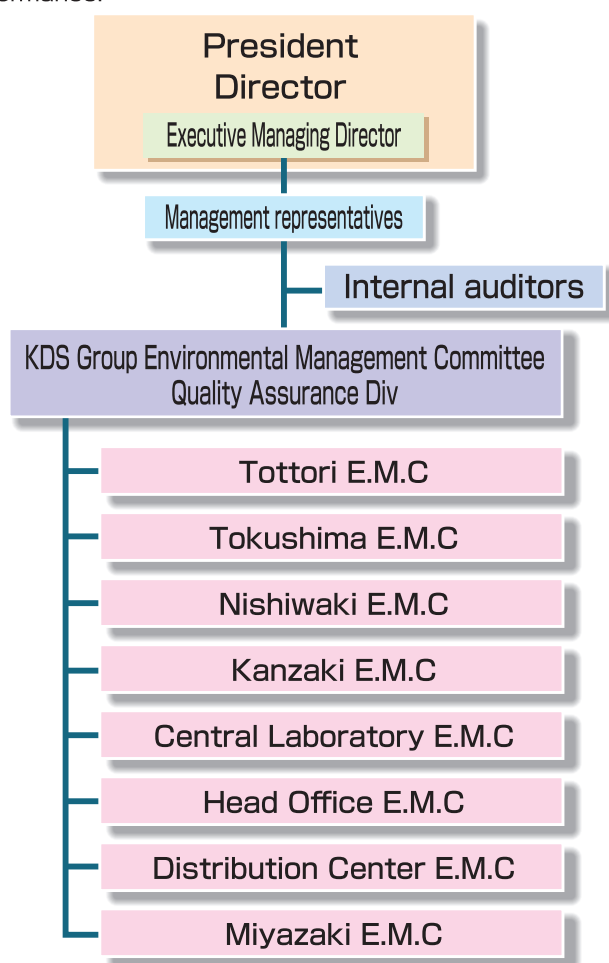
Daishinku Group promotes to preserve the global environment at each stage of our business activities, including the development, production and sales of our crystal-applied products.

1. Offer the environmentally friendly products by properly controlling the substances with environmental impact and reducing the use of them.
2. Effectively utilize resources and prevent environmental pollution by reducing and properly disposing of wastes including prevention of waste generation, reuse and recycle.
3. Prevent the global warming by carrying out energy conservation activities.
4. Observe relevant environmental laws, standards, agreements and any other requirements to which the company subscribes.
5. Set the environmental objectives and targets based on this Environmental Policy and promote the activities, and also review them regularly for the continuous improvement in our environmental management system.
6. Notify all employees and those who work for our group of environmental policies and raise their consciousness and awareness about environmental conservation through the education and awareness-raising activities.
7. Ensure that our information on environmental conservation activities is available to the public.

# Environmental Management System

## Organizational Structures

As part of implementing our Environmental Management System, an Environmental Management Committee has been set up at each of our business bases, and a KDS Group Environmental Management Committee has been established to supervise the entire company. The KDS Group Environmental Management Committee determines the goals of environmental activities of the KDS Group, examines/make decisions on the results of the activities, makes effective use of the PDCA cycle, and works for continuous improvement of environmental performance.

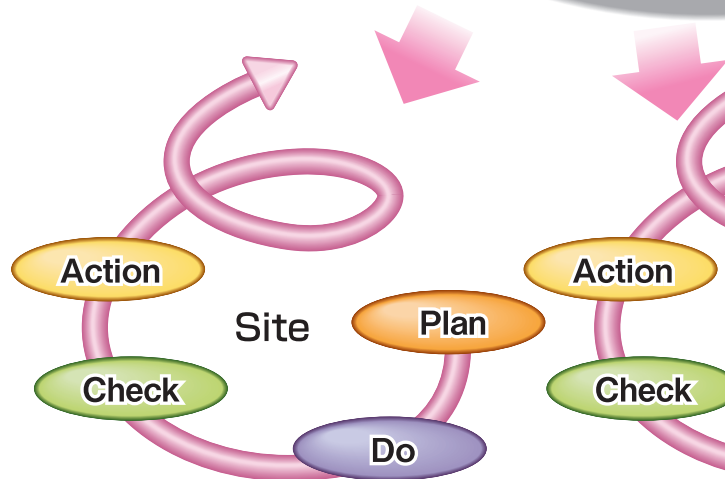
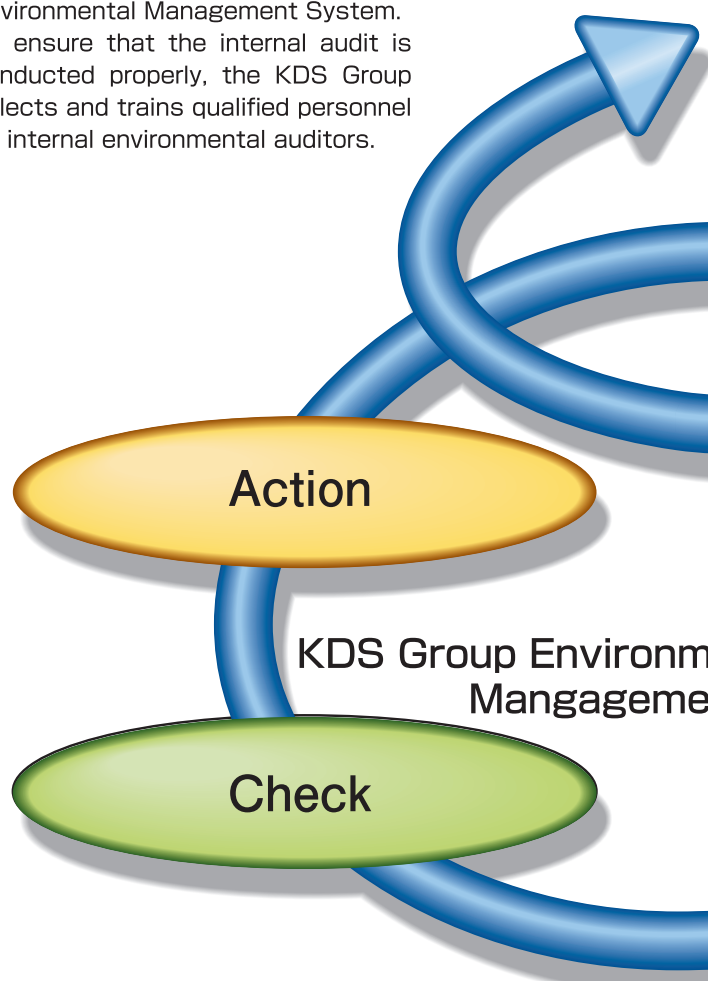


## Environmental Audit

To ensure efficient operation of the Environmental Management System, it is important to check whether the environmental management is being properly implemented and to correct any problems found.

The KDS Group conducts an internal environmental audit once a year to check the status of its management system. The results of the internal environmental audit are reported to the management, to discuss the effectiveness and points for improvement of the system, contributing to the continuous improvement of the Environmental Management System.

To ensure that the internal audit is conducted properly, the KDS Group selects and trains qualified personnel as internal environmental auditors.





## ISO14001 Certification Status

The KDS Group has acquired ISO14001 certification, an international environmental management standard. All of our domestic offices/plants acquired the certification together in 2000, to promote implementation of an integrated management system for the whole KDS Group.

We will continue to work for environmental conservation by implementing an environmental management system consistent with ISO14001.

TIANJIN KDS CORP. and PT. KDS INDONESIA, our overseas production bases, have also acquired ISO 14001 certification and are committed to environmental conservation in cooperation with our domestic offices.



The image shows a list of certificates for ISO14001. The table has columns for 'Certificate Number', 'Company Name', 'Address', 'Registration Date', and 'Expiry Date'. The certificates are issued by JQA-ENC687. The list includes certificates for various companies, including DAI SHINKU CORP., KDS CORP., and KDS INDONESIA.

List of Certificates (ISO14001)

## Emergency Response

Each plant/office has an “Emergency Response Program” in place that specifies the procedures for dealing with possible emergencies and accidents to minimize impacts on surrounding neighborhoods.

In June, our Environment Month, we hold emergency drills and verify the effectiveness of the Emergency Response Program by checking our emergency communication network, storage locations/quantities of equipment to be used, etc., in order to be prepared for any emergency that may occur.



Emergency response training



# Environmental Performance

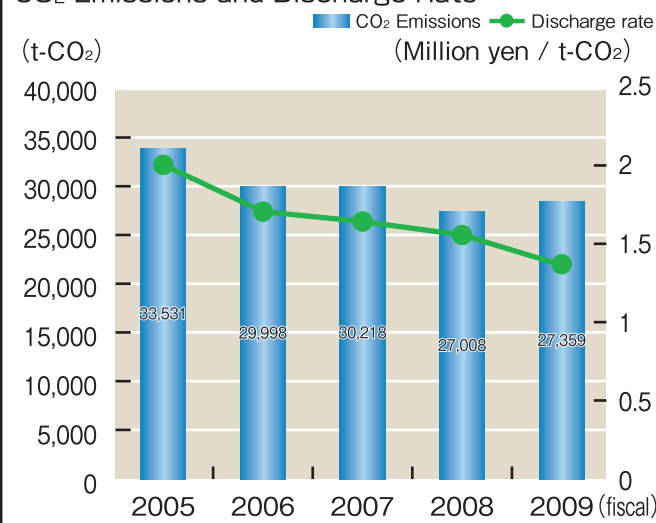
## Prevention against Global Warming

The KDS Group is committed to reducing emissions of greenhouse gases such as CO<sub>2</sub>.

Our production bases have introduced inverter lighting apparatus and energy-saving type air-conditioning equipment, while engaging in activities to improve the operating efficiency of production facilities and lower the defective rate, with the aim of reducing unit energy consumption.

Other activities require participation of each employee, such as setting moderate air-conditioning temperatures and frequent turning off of lights and OA devices.

### CO<sub>2</sub> Emissions and Discharge Rate

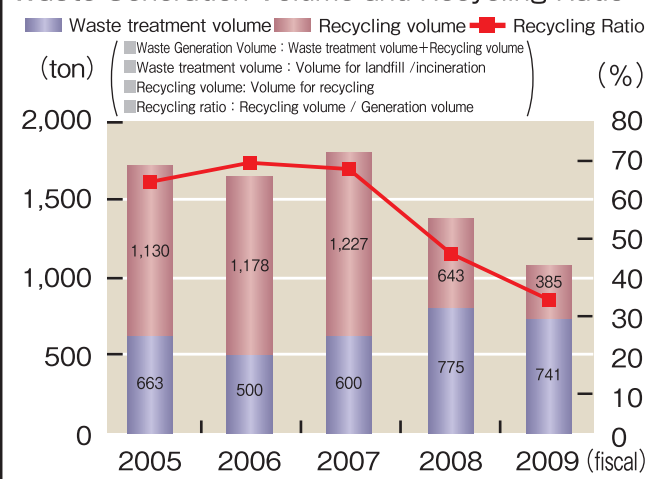


## Waste Reduction, Resources Recycling

The KDS Group has been working to reduce the amount of waste for landfill and incineration, as well as the volume of waste generated. The volume of waste generated has been decreasing since fiscal 2007. In fiscal 2009 we achieved an approx. 38% reduction in generation volume from fiscal 2007.

Most of the waste generated by the KDS Group is sludge. We are striving to reduce the volume of waste generated through measures to eliminate the cause of sludge generation, such as switching from chemical cleansing to deionized water cleansing.

### Waste Generation Volume and Recycling Ratio



## Management/Disposal of PCB Waste

PCB (polychlorinated biphenyl) is highly toxic to living organisms and the Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes requires proper disposal of PCB by July 2016.

To ensure proper storage of PCB wastes and completion of disposal by 2016 pursuant to the law, the KDS Group companies have registered with Japan Environmental Safety Corporation (JESCO) and started proper disposal in fiscal 2010.

※Japan Environmental Safety Corporation (JESCO): a 100% government-owned special company established to take over the PCB waste treatment sector of the former Japan Environment Corporation (special corporation)



PCB storage condition

## Management of Chemicals Subject to the PRTR Law

The KDS Group handles chemicals specified by the PRTR law.

In fiscal 2009, we were able to reduce about 25% more PRTR-specified chemicals than in 2007.

Number specified in Cabinet Order	Substance	FY 2007	FY 2008	FY 2009
283	Hydrogen fluoride and its water-soluble salts	14,652	17,781	11,606
64	Silver and its water-soluble compounds	869	1,110	1,154
231	Nickel	1,800	1,080	240
25	Antimony and its compounds	472	879	622
232	Nickel compounds	642	460	163
	Others	680	438	578
	Total	19,114	21,749	14,364

(Unit : kg)

※PRTR law : Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof Requires business operators handling chemical substances to submit the amounts of chemical substances emitted and transported.

## Observance of Laws and Regulations

Observance of laws and regulations is a key factor for a company when implementing its business activities. The KDS Group tries hard to prevent violation of laws and regulations from occurring, by making effective use of the Environmental Management System.

A case of exceeding a standard value set by law (pH) was found in Kyushu Daishinku Corp. in 2008. We reported the violation to the government authority and took corrective measures. We will strengthen our management system by thoroughly implementing recurrence prevention measures and verifying their effectiveness.

### Tokushima Production Division (First effluent)

Items	Reg.V.	Self-reg.V.	Msd.V.		
			Max	Min	Ave
pH	5.8~8.6	6.0~8.0	7.2	6.2	6.5
BOD	160	18	1.3	<0.5	0.8
COD	—	18	1.9	<0.5	1.0
SS	200	27	16.0	<1.0	4.5
N-hexane	5	4.5	<1.0	<1.0	<1.0

### Tokushima Production Division (Second effluent)

Items	Reg.V.	Self-reg.V.	Msd.V.		
			Max	Min	Ave
pH	5.8~8.6	6.0~8.0	7.0	6.3	6.6
BOD	160	27	3.0	<0.5	1.4
COD	—	18	1.8	0.7	1.2
SS	200	36	5.0	<1.0	2.6
N-hexane	5	4.5	<1.0	<1.0	<1.0

### Tottori Production Division

Items	Reg.V.	Self-reg.V.	Msd.V.		
			Max	Min	Ave
pH	5.0~9.0	6.0~8.0	7.6	6.3	7.0
BOD	600	540	6.3	<1.1	4.0
COD	—	—	—	—	—
SS	600	540	2.8	<1.0	1.9
N-hexane	5	4.5	<0.5	<0.5	<0.5

### Nishiwaki Plant

Items	Reg.V.	Self-reg.V.	Msd.V.		
			Max	Min	Ave
pH	5.8~8.6	6.0~8.0	7.6	6.7	7.2
BOD	40	20	2.0	<0.5	1.0
COD	40	20	10.0	2.7	3.9
SS	50	30	2.0	<0.5	1.0
N-hexane	1	0.9	<0.5	<0.5	<0.5

### Kanzaki Plant

Items	Reg.V.	Self-reg.V.	Msd.V.		
			Max	Min	Ave
pH	5.8~8.6	6.0~8.2	7.6	6.2	7.0
BOD	40	18	11.0	<0.5	3.9
COD	40	18	14.0	<0.5	4.6
SS	50	20	7.0	<0.5	2.3
N-hexane	1	0.9	<0.5	<0.5	<0.5

### KYUSHU DAISHINKU CORP.

Items	Reg.V.	Self-reg.V.	Msd.V.		
			Max	Min	Ave
pH	5.8~8.6	6.0~8.0	8.8	7.0	7.8
BOD	160	144	22.0	0.5	4.1
COD	—	—	8.5	1.0	3.6
SS	200	180	14.0	<1.0	4.6
N-hexane	5	4.5	<0.5	<0.5	<0.5

### Central Laboratory

Items	Reg.V.	Self-reg.V.	Msd.V.		
			Max	Min	Ave
pH	5.0~9.0	5.5~8.5	7.2	6.2	6.8
BOD	600	540	190.0	<1.6	35.0
COD	—	—	—	—	—
SS	600	540	25.0	1.4	7.7
N-hexane	5	4.5	<2.0	<2.0	<2.0

(Unit : mg/L)

※Listed measurement values are based on results measured from April 2009 through March 2010

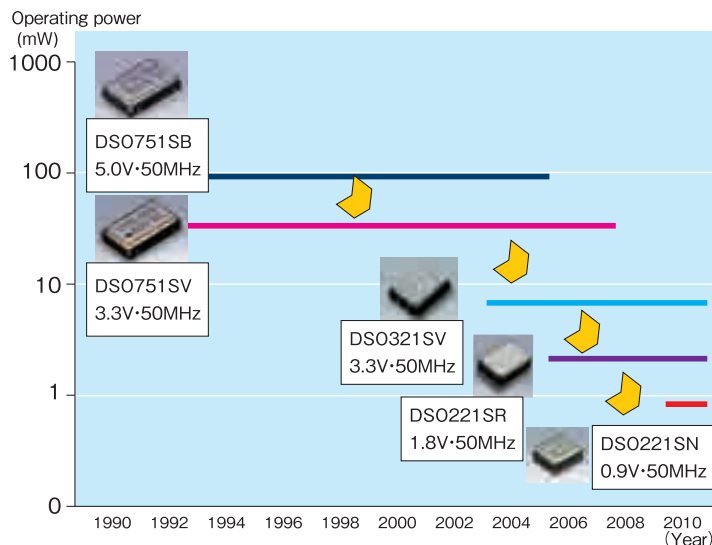
# Environmental Consideration for Product

## Environmental Care through Energy-Saving Design

Power consumption of electronic devices such as PCs, cell phones and flat-screen televisions can be lowered by reducing the power consumption of crystal products used in these devices.

Since power is partly generated by thermal power plants, which are associated with generation of CO<sub>2</sub>, reduction of power consumption contributes to the reduction of CO<sub>2</sub>.

Our DSO221SN crystal oscillator, for example, has achieved a driving voltage of 0.9 V, about 1/5 that of the DS0751SB, and has reduced electric power consumption to less than 1/100, from 90 mW to just 0.9 mW.



## Miniaturization of Products

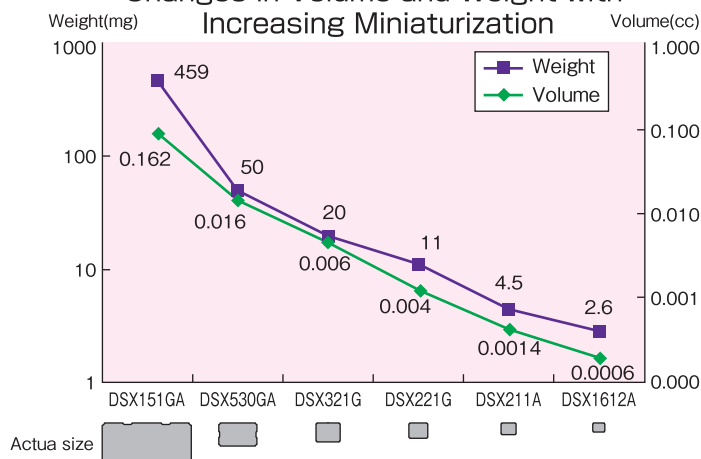
Downsizing crystal products will reduce the materials used in our products.

Reducing material usage will then lead to a reduction of environmentally hazardous substances remaining in the

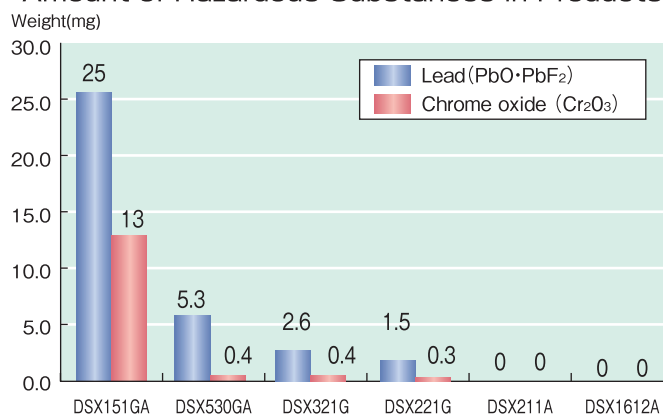
materials.

Our DSX1612A crystal resonator for example, is about 1/175 the weight and 1/280 the volume of the DSX151GA, with substantially reduced usage of lead and chromium.

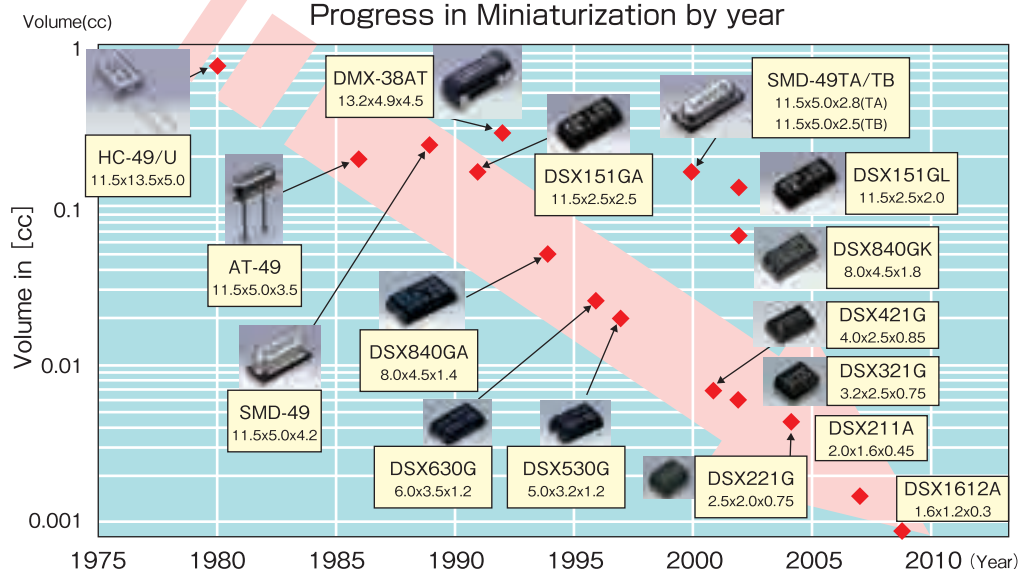
Changes in Volume and Weight with Increasing Miniaturization



Amount of Hazardous Substances in Products



Progress in Miniaturization by year





## Chemicals Management at Design Stage

For each crystal product, we examine its impact on the environment in the design/development stage and confirm based on the data provided by the suppliers that no environmentally hazardous substances are used for the component materials of the product. We also conduct periodic checks not only in the product design stage but also for mass produced items to determine whether any environmentally hazardous substance is contained in them, using in-house XRF analyzers, with the aim of preventing outflow of hazardous substances.



X-ray fluorescence analyzer

## Eco-friendly Production and Packaging

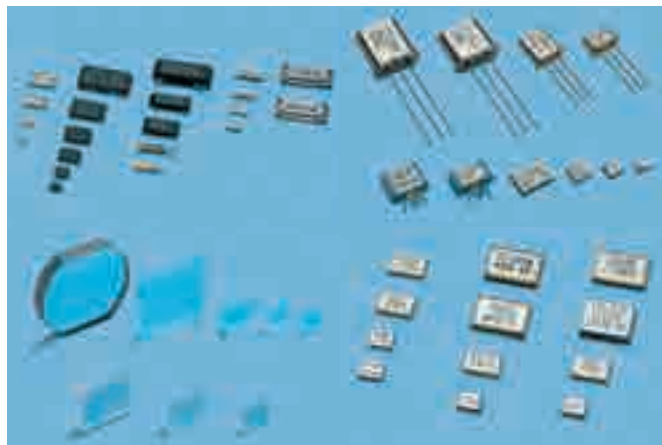
Manufacturing of products includes the process of washing, to remove oil and foreign matter. We promote switching from organic solvent to deionized water and semi water based for washing, aiming to reduce burdens on the environment.

While most electronic components are automatically installed and packaged using tape, the carrier tape used to enclose crystal oscillators is wound around reels for shipment. To promote reuse of a greater number of reels used for shipping products, we use shipment labels that can be easily peeled off. This enables repeated use of reels.

## Environmentally Friendly Products

Placing highest priority on reduction of lead in our efforts to make our products environmentally friendly, we started assessment in 2000 in preparation for the pursuit of lead-free products. Since 2002, we have replaced the lead solder used for plating of lead terminals with lead-free solder. We have achieved lead-free solder plating by optimizing the plating thickness, despite the conventional belief that lead solder is structurally indispensable for vacuum sealing by press fitting. Although the RoHS Directive currently allows the use of lead contained in the sealing glass for ceramic packages, we have launched totally lead-free glass. Replacement with RoHS-compliant products was completed in December 2009.

High-temperature solder contains a large amount of lead to maintain resistance to heat, and therefore finding an alternative is said to be highly difficult. However, we are trying to develop an alternative product by reviewing the basics of materials.



Environmentally Friendly Products

## Compliance with Laws and Regulations

Laws and regulations concerning chemical substances such as RoHS Directive, ELV Directive and REACH have been increasingly enhanced and implemented all over the world. The KDS Group promoted use of lead-free solder plating as a response to RoHS and ELV Directives.

In June 2007, REACH (Regulation Concerning the Registration, Evaluation, Authorization and Restriction of Chemicals), a new regulation on chemical substances, was enforced in Europe. To properly respond to REACH, we must ensure necessary information is communicated within the entire supply chain. The KDS Group, as an electronic components manufacturer, has established a system to communicate information to suppliers, obtain information, and provide appropriate information for customers.

# Environmental Impact

In the course of its manufacturing and sales activities, the KDS Group generates various burdens on the environment as a result of its use of energy, waste/chemicals management, use of water resources, etc. We will promote conservation of the global environment by making efforts to reduce the environmental burdens caused by our business activities.

## INPUT

## OUTPUT

### Environmental burdens generated in offices/plants in Japan

Energy	Electric Power	('08) 64,637 kWh ('09) 63,023 kWh
	Fuel oil	('08) 831 kL ('09) 947 kL
	City gas	('08) 13,344 m <sup>3</sup> ('09) 10,928 m <sup>3</sup>
	Kerosene	('08) 9 kL ('09) 13 kL
	LPG	('08) 15,649 m <sup>3</sup> ('09) 13,138 m <sup>3</sup>
Water	Tap water	('08) 140 km <sup>3</sup> ('09) 100 km <sup>3</sup>
	Ground-water	('08) 186 km <sup>3</sup> ('09) 188 km <sup>3</sup>
Chemicals		('08) 21,749 kg ('09) 14,364 kg
Raw Materials	Crystal raw material	
	Abrasive	
	Alcohol	
	Component	
	Others	

Gas	CO <sub>2</sub>	('08) 27,740 t-CO <sub>2</sub> ('09) 26,491 t-CO <sub>2</sub>
Quality	Wastewater	('08) 222 km <sup>3</sup> ('09) 194 km <sup>3</sup>
	Chemical Oxygen Demand	('08) 344 kg ('09) 240 kg
Water	Biochemical Oxygen Demand	('08) 461 kg ('09) 452 kg
Waste	Waste generation Volume	('08) 1,418 t ('09) 1,126 t
	Waste treatment Volume	('08) 775 t ('09) 741 t
	Recycling volume	('08) 643 t ('09) 385 t
Products	Crystal Resonators	
	Crystal Oscillators	
	Monolithic Crystal Filters	
	Optical Quartz Products	

### Environmental burdens generated in overseas offices/plants

Energy	Electric Power	('08) 81,193 kWh ('09) 81,167 kWh
	Gasoline	('08) 26 kL ('09) 26 kL
	Fuel oil	('08) 181 kL ('09) 204 kL
Water	Tap water	('08) 723 km <sup>3</sup> ('09) 783 km <sup>3</sup>

Gas	CO <sub>2</sub>	('08) 31,477 t-CO <sub>2</sub> ('09) 31,578 t-CO <sub>2</sub>
Water Quality	Wastewater	('08) 714 km <sup>3</sup> ('09) 766 km <sup>3</sup>
Waste	Waste generation Volume	('08) 798 t ('09) 745 t
	Waste treatment Volume	('08) 474 t ('09) 426 t
	Recycling volume	('08) 324 t ('09) 319 t

## Contribution activities in local communities

Considering that involvement in local communities is highly important for implementing corporate activities, the KDS Group promotes cleanup activities for local communities. Through participation in local cleanup campaigns and cleaning the streets around our offices, we hope to contribute to the local communities. In both fiscal 2008 and 2009, the KDS Group offices/plants in Japan engaged in 14 cleanup activities.



Cleanup activity by Tottori Production Division



Cleanup activity by Tokushima Production Division

## Environment conservation is one of the major management policies of the KDS Group

As global environmental issues have been attracting growing attention in recent years, the Ministry of the Environment has presented nine major concerns; 1) destruction of the ozone layer, 2) global warming, 3) acid rain, 4) decrease of rainforests, 5) desertification, 6) pollution in developing countries, 7) decrease of wild species, 8) marine pollution, and 9) cross-border transfer of hazardous waste.

Fully understanding the significance of these problems, the KDS Group has positioned environmental conservation as one of its management policies and makes constant efforts to promote corporate activities in harmony with the environment.

For products, under the theme of “creating environmentally-friendly products,” we promote product design containing no hazardous chemicals and green procurement of component parts and raw materials, as well as efforts to ensure compliance with the RoHS Directive. We also actively engage in energy-saving activities, and reduction, reuse and recycling of waste in our production activities.

We issue this Environmental Report to explain our environmental efforts. We hope this Report will help many people supporting us, as well as our employees, to understand how our activities contribute to society, and we would like to ask for your continued support.



Executive Managing Director  
Director **Kenji Nakazawa**

The Environmental Report 2009-2010 can be downloaded  
from Daishinku's website.

<http://www.kds.info/>

In addition to the environmental report, our website offers  
other information.





**DAISHINKU CORP.**

<http://www.kds.info/>

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Comments and inquiries about this report may be sent to the following

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This report uses the form that considers the environment for the global environment protection.